



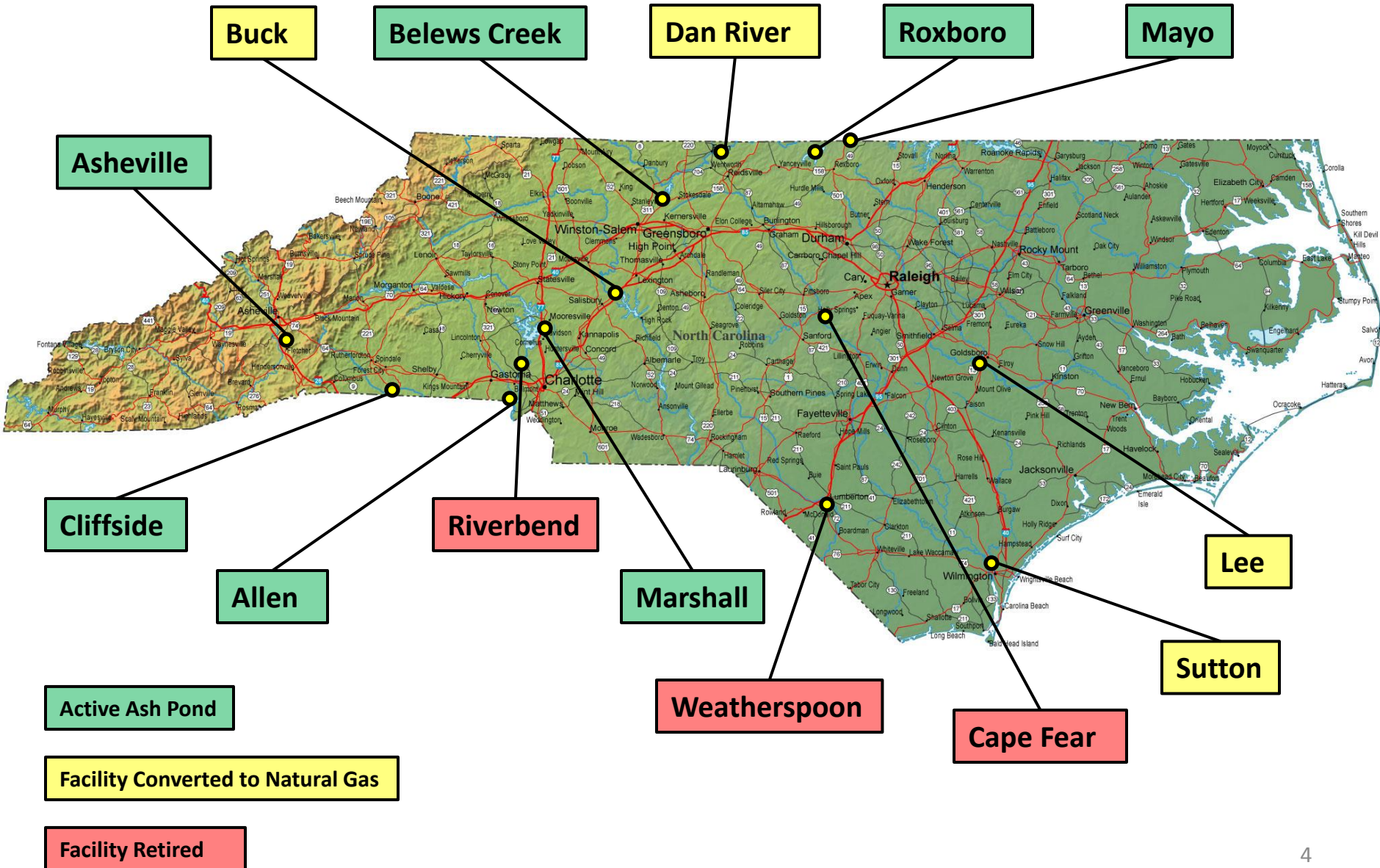
# The Dan River Coal Ash Release: Description & Timeline of Events

Environmental Review Commission  
February 17, 2014

# Overview

- Overview of Coal Ash in NC
- What happened at Dan River?
- Reporting requirements for coal ash release
- Detailed timeline of events for Dan River

# Overview of Coal Ash Ponds & Requirements in North Carolina









Raw coal is brought in by rail and stored on site.





Raw coal is conveyed into the power plant and burned to boil water that drives turbines, creating electricity.



Horseshoe Bend Beach Rd  
Stonewater Bay

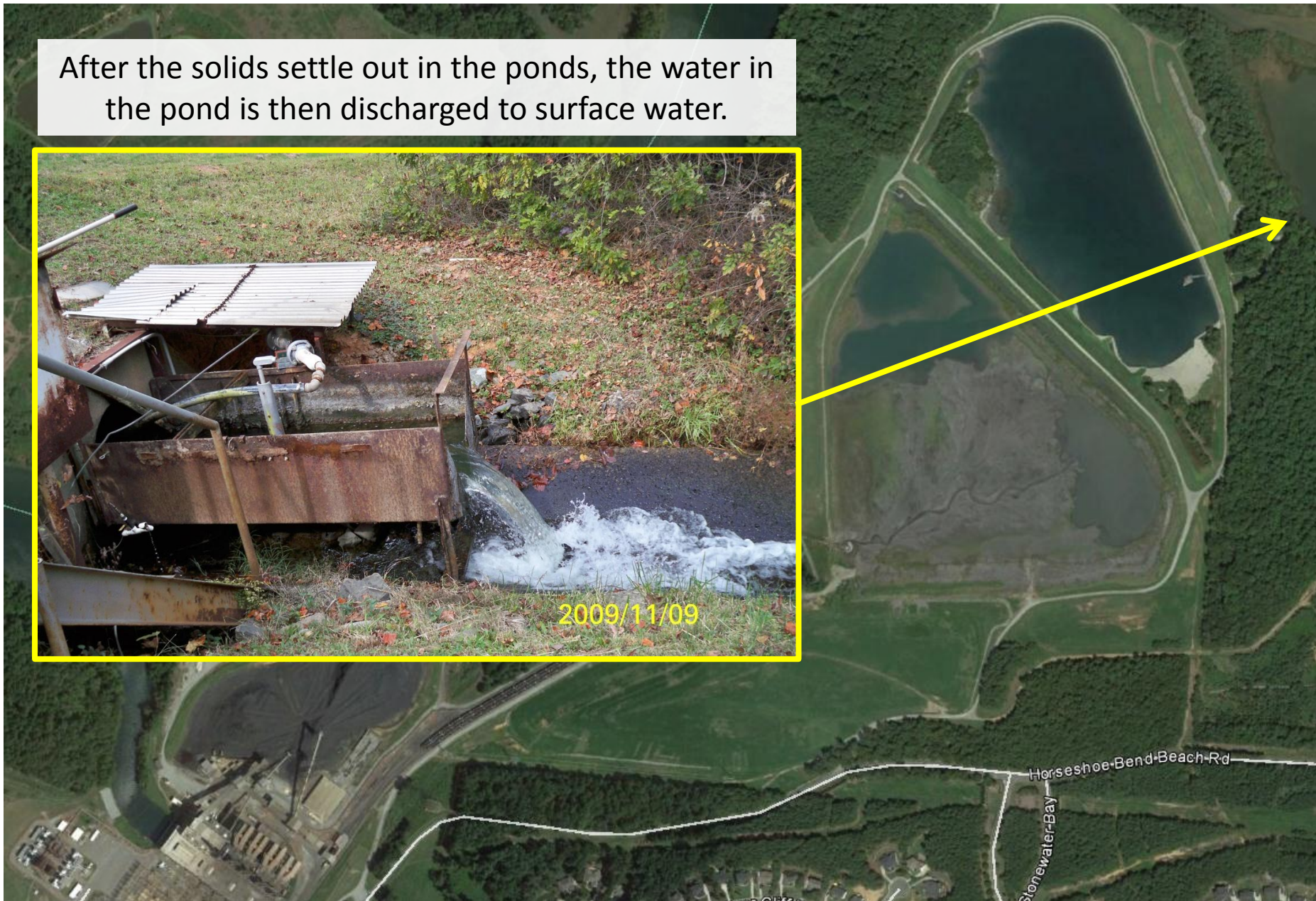


After being burned, the ash from the coal is sluiced with water from the plant into ponds where the solids settle out.



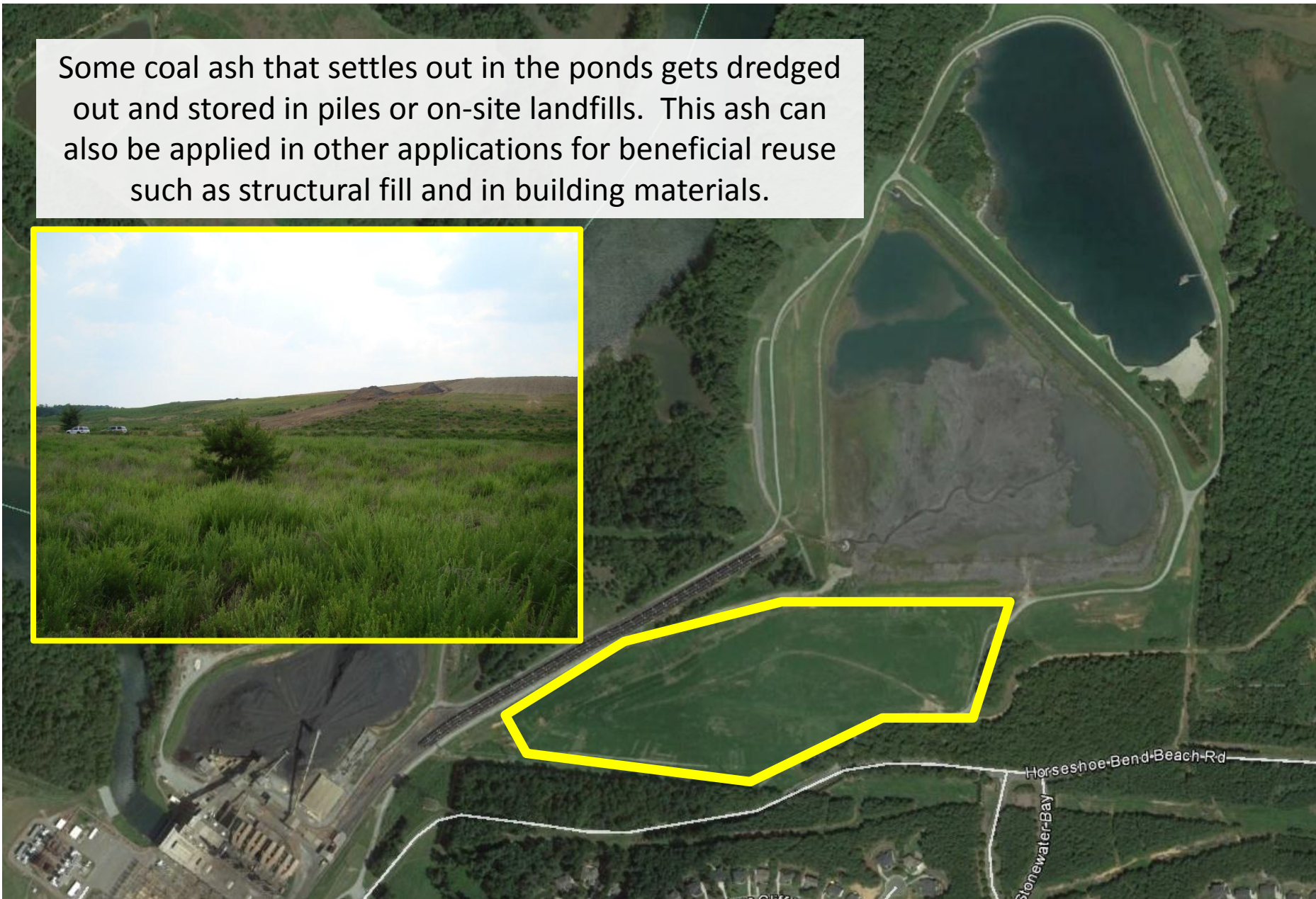


After the solids settle out in the ponds, the water in the pond is then discharged to surface water.





Some coal ash that settles out in the ponds gets dredged out and stored in piles or on-site landfills. This ash can also be applied in other applications for beneficial reuse such as structural fill and in building materials.





# Regulation of Coal Ash

- No federal requirements governing coal combustion residuals (coal ash).
  - Federal regulations expected in December 2014.
- The DWR has regulatory responsibility for ponds that hold fly and bottom ash.
- Coal ash facilities are regulated through the federal National Pollutant Discharge Elimination System (NPDES).
- NPDES permits are issued to allow the discharge of treated wastewater to surface waters.

# Regulation of Coal Ash

- NPDES permits require that the effluent discharged must adhere to permit limits.
- Discharges must comply with the state & federal water quality standards.



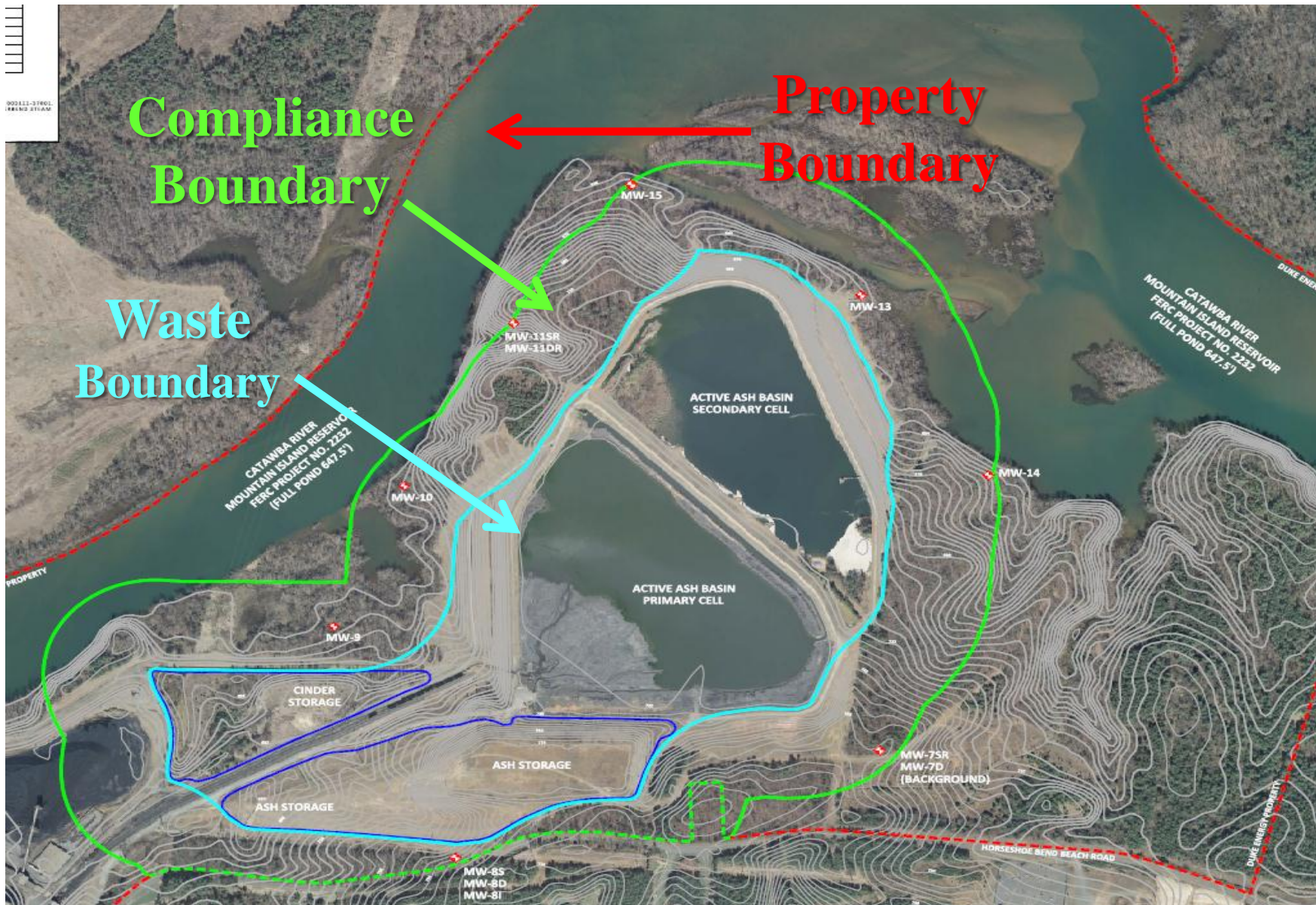
# Monitoring/Reporting Requirements

- Each facility is inspected once every two years by DWR.
- Also routinely inspected by DEMLR Dam Safety Program.
- Each facility's permit describes the parameters monitored and the monitoring frequency:
  - NPDES permit "End of pipe" monitoring addresses the chemical constituents of effluent discharged directly to surface waters.
  - Reports are sent to the DWR each month.
  - Chemical monitoring is required both up-stream & downstream of the discharge area.
  - Biological monitoring is required of the aquatic life found above and below the effluent outfall.
  - Fish are collected and fish tissue is analyzed for the presence of pollutants.

# Monitoring/Reporting Requirements

- Groundwater standards are applicable to groundwater resources surrounding the permitted ash ponds.
- Each of the 14 facilities is currently monitoring groundwater in accordance with an approved plan.
- Groundwater monitoring requirements from the plan are added to each of the NPDES permits as the facility comes up for permit renewal (every five years).

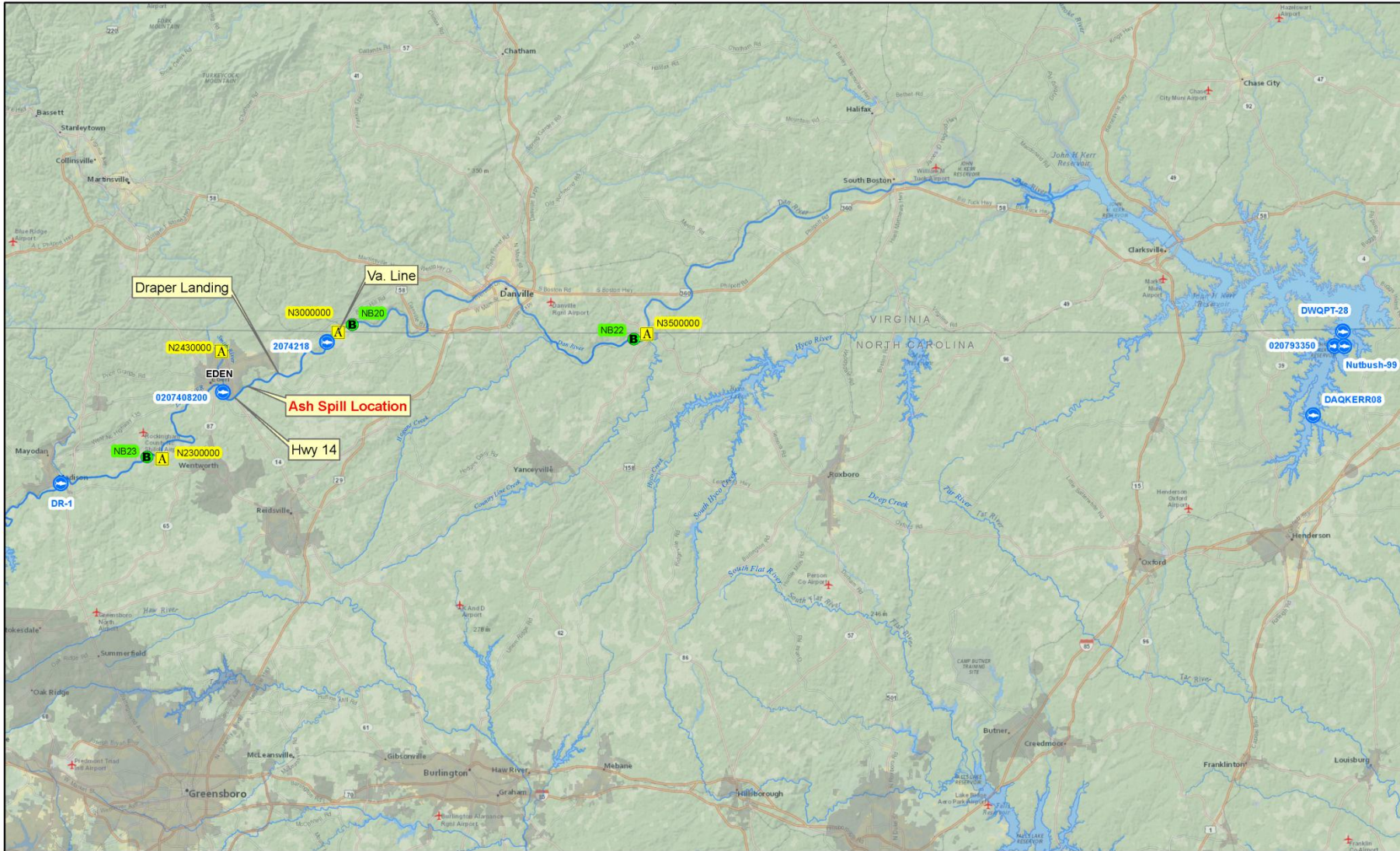







# The Dan River Coal Ash Release



# Duke Power Eden Coal Ash Spill and DWR Monitoring Locations for Dan River, NC

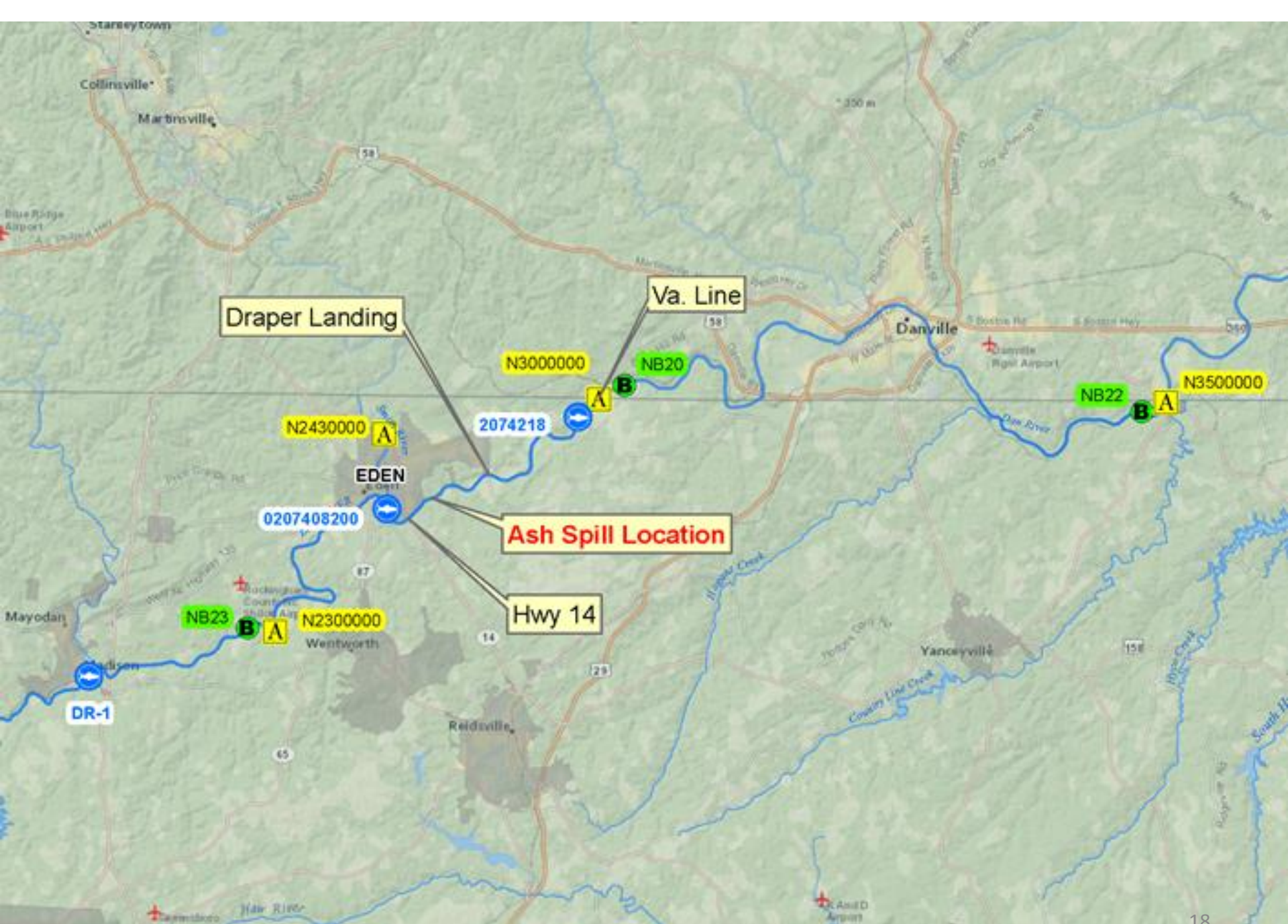


-  Fish Tissue Station
-  Ambient Station
-  Benthos Station

0 2.5 5 10 15 20 Miles





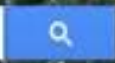


# Coal Ash Release – What Happened?

## Sunday - Feb 2nd

- Coal ash ponds at Dan River Station retired in 2012.
- On the afternoon of Feb 2 (Sunday) a stormwater pipe under the primary 27 acre coal ash pond fails.
- Corrugated metal portion of pipe fails.
- Failure of pipe under the pond allows the release of coal ash & water to the adjacent Dan River.
- Partial collapse of interior pond berm.
- Duke notifies Eden/Danville/Rockingham County.
- Duke calls Division of Emergency Management hotline Sunday evening.





•Melanie



Share



Getting around  
Traffic - Bicycling



Directions



Map

Google



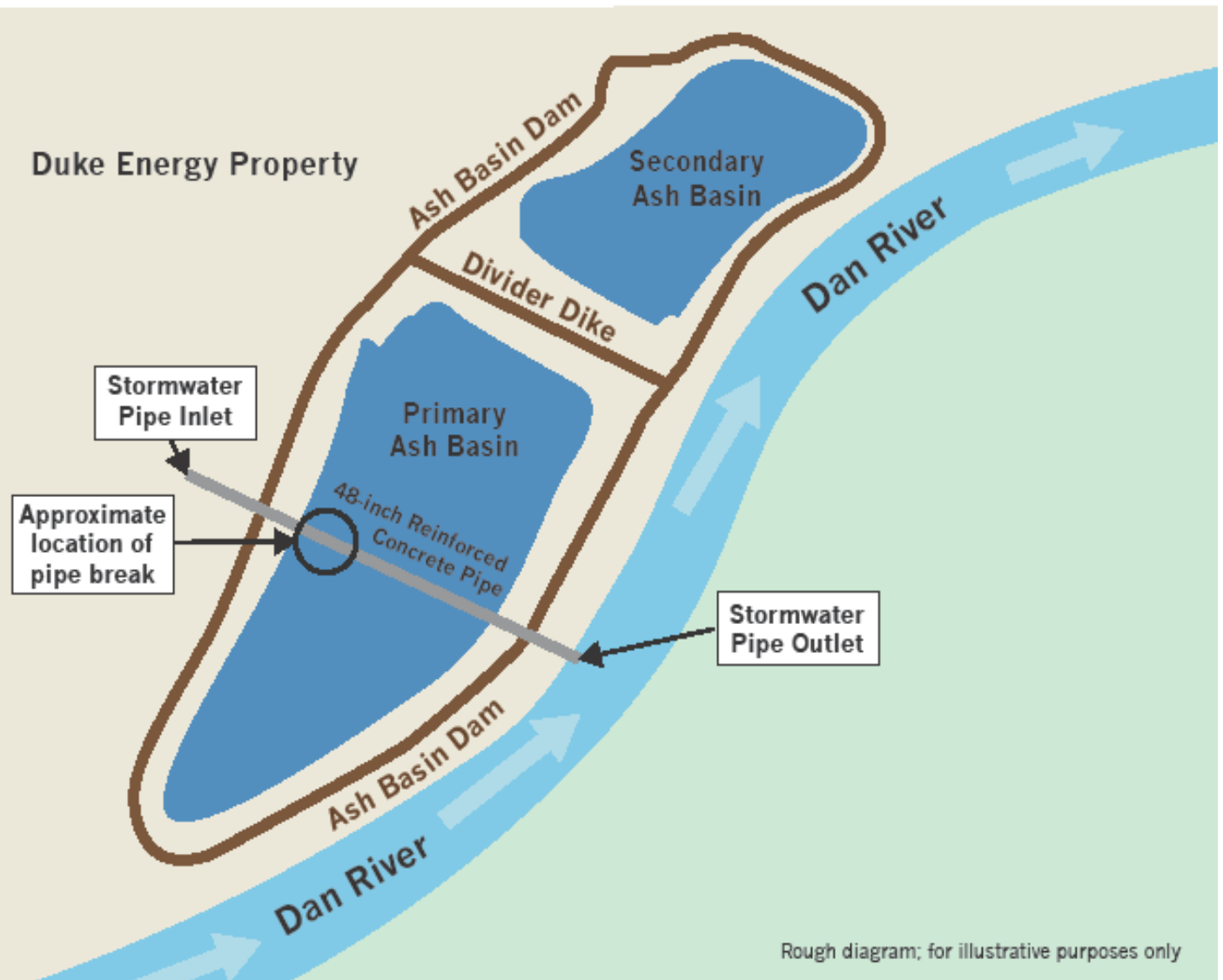
Zoom

20





# Dan River Steam Station



# Coal Ash Release – What Happened?

## Monday – Feb 3

- DENR Regional Office personnel notified.
- DENR staff travel immediately to power plant.
  - Both water quality & dam safety personnel.
- Release of coal ash continues through failed pipe.
- Duke mobilizes to try to stop release.
  - Attempts to stop flow w/air bladders in pipe.
- DWR ensures all downstream water supplies notified.
- Duke & DENR issue separate press releases in afternoon.
- DWR begins collecting water quality samples.
- DENR notifies EPA / EPA reps on site before midnight.



02.03.2014 12:20









02.03.2014 12:21





02.03.2014 13:38





# Coal Ash Release – What Happened?

## Tuesday – Feb 4

- Secretary Skvarla visits site, receives detailed briefing.
- Secretary Skvarla discusses situation w/EPA Region 4 Administrator & Director of VA Dept of Env Quality.
- US Fish & Wildlife Service on site.
- Initial samples are delivered to DWR chem lab for analysis.
- Danville able to treat water, provide safe drinking water.
- Duke continues repair work:
  - Duke commences re-routing all discharges away from ash pond.
  - Pipe failure located and excavation begins.
  - Video camera inserted 120 feet into pipe from pond failure.
- Release reduced, but not eliminated.
- Sampling & monitoring efforts continue through duration.
  - Coordinated between DENR/EPA/USFWS.





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02.03.2014 12:42





02.03.2014 13:08

# Coal Ash Release – What Happened?

## Wednesday – Feb 5

- Earthen platform created at pipe failure collapses.
- Platform material collapses into crater, plugs pipe.
- Discharge is almost completely eliminated.
  - Discharge will remain very slight for duration.
- DWR issues emergency discharge permit.
  - Allows Duke to cease all discharges to ash pond.
- Coal ash residue spotted on nearby river banks.
- Dewatering of failure area commences.
- Video completed of 760 feet of pipe from river end.



# Coal Ash Release – What Happened?

## Thursday – Feb 6

- Governor McCrory & Secretary Skvarla visit site.
  - Governor McCrory discusses situation w/VA Governor McAuliffe.
- Efforts continue at excavation of pipe failure area.
  - Need to create working platform at failure.
  - Then lower trench box at failure site.
- Plan is to fill pipe with grout/concrete to seal.
- Sandbag dam inserted into river end of pipe.
- Sump pump placed behind dam.
- Discharge collected at sandbags pumped to tank.
- Discharge eliminated at 7:00 pm.
- DWR publishes initial sampling results from Monday.

# Coal Ash Release – What Happened?

## Friday – Feb 7

- DWR begins assessment of sediment deposition & development of long term monitoring plan.
- No discharge due to sandbag dam / pump.
- Bulkhead constructed for grout sealing operation.
- Wooden bulkhead to be inserted into pipe from river opening of pipe.
- Grout will be pumped into pipe to bulkhead and then pipe will be sealed with concrete cap.
- Virginia DEQ on site.
- Completed sampling results for Mon/Tues published.





# Coal Ash Release – What Happened?

## Saturday – Feb 8

- 1:00 am – Bulkhead and end cap set into place.
- Bulkhead set approximately 27 feet into pipe from river opening.
- 3:00 am – Grout / concrete pumping begin.
- 4:30 am – Grout / concrete pumping completed.
- 27 foot plug established in river end of pipe.
- Remaining length of pipe to be filled with grout/concrete mixture.



# Coal Ash Release – What Happened?

## Sunday – Feb 9

- Excavation of pipe near original failure continued.
  - To allow grouting/concreting of remaining pipe.
- Plans developed to remove a mound of approx 300 cubic yards of ash discovered by discharge point.
  - Coordination with Army Corps/DENR/USFWS/EPA.





# Coal Ash Release – What Happened?

## Monday - Wednesday – Feb 10 - 12

- Approvals by Army Corps/DENR to remove ash deposit in river.
- Ash deposit removal begins on Feb 11.
- Pipe failure site is located and excavated.
- Plans are developed to grout/concrete remainder of pipe (approx 800') in five stages.
- EPA hosts a public meeting in Danville on Feb 11.

# Reporting Requirements for Coal Ash Release

- Permit Requirements
  - Contained in discharge permit
  - Notify Division (DWR) within 24 hours of spill
- Statutory requirements
  - Contained in 143-215.1C
  - Owner/operator must issue press release within 48 hours of release to Waters of the State



# Coal Ash Release-Reporting Timeline

## Sunday – Feb 2

- 2:00 to 4:00 pm (approx): Duke notices problem in coal ash pond.
- 5:30 pm: Duke alerts Eden/Danville/Rockingham County.
- 6:00 pm (approx): Duke calls DWR Regional Office (does not speak to anyone because no one is there – does not leave voice mail).
- 6:53 pm: Duke calls Division of Emergency Management via Environmental Emergency hotline.
  - Call is not relayed to NC DENR.

# Coal Ash Release-Reporting Timeline

## Monday – Feb 3

- 8:00 am (approx): Duke contacts DWR Regional Office.
- 9:00 am (approx): DWR personnel leave for site.
- DWR verifies that downstream public water supplies have been notified.
- 4:00 pm: Duke issues press release.
- 5:32 pm: DENR issues its own press release.
- DWR staff begin sampling efforts on site.



# DENR Public Outreach

- 10 press releases issued since Feb 3.
- Public Information Officers dispatched to site.
- Attendance at public meeting in Danville on Feb 7/11.
- Created a webpage w/updates, timelines, water quality sampling results, and news releases.
- Established public information command post:
  - Fielded inquiries from local media, NY Times, CNN, LA Times, Newsweek, WSJ, AP, NPR, Al Jazeera, Christian Science Monitor, etc...

# Path Forward

- Long term monitoring & assessment.
- Remediation of Dan River.
- Appropriate enforcement action.
- Multi-disciplinary coal ash task force.



# Contact Information

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